Monroe County Energy Challenge
Community Energy Savings Plan

November 2014

To reduce energy use in a meaningful way, energy efficiency needs to be accessible to the average community.

Monroe County does not yet have ambitious net-zero energy goals, has an average amount of resources available, and has an average level of energy expertise. We have created this plan for the other average communities out there in hopes that, together, we can make an extraordinary impact.

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Executive Summary

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Energy vision

The City of Bloomington, Monroe County Government, and towns of Ellettsville and Stinesville envision an energy future where dependence on fossil fuels is minimized, and the community is served by a diverse portfolio of renewable energy sources, an efficient and smart power grid, a system of distributed generation, a diverse and balanced transportation system, by smart, forward-thinking energy policies and practices, and by a proactive and involved public. Add sentence re school systems

In doing so, the local community will realize many positive impacts, including a healthier environment, a more stable and efficient energy system to support local economic activity, reduced dependence on distant sources of energy, a greater proportion of local dollars retained in the local economy, and a healthier population with more equitable access to local resources. As savings are realized county-wide, tax dollars will be redistributed to direct services to blah blah blah

We will achieve this vision by pursuing the sector-specific goals and strategies outlined below.

Community goals

Energy savings plan

The Monroe County Energy Challenge Plan (the Energy Plan) is a broad, evolving document focused on assisting the Monroe County community realize its energy vision.

In this initial phase (2015-2016), the Energy Plan will focus specifically on reducing consumption of metered electricity and natural gas in Monroe County through outreach and education, incentives (including multiple existing programs), and technical assistance. During this phase, the community will develop additional energy goals and strategies in other sectors to reduce fossil fuel dependence over the long term.

Context

The Monroe County community is served by several energy utilities. Duke Energy, the South-Central Indiana REMC, and the Utilities District of Western Indiana provide the vast majority of residents with electric service. Vectren Energy supplies natural gas county-wide.

In the major population centers of the county (Bloomington and Ellettsville), residential energy consumption accounts for just over one-third of electricity use and roughly 45% of natural gas use in the county overall.[1] In 2012, local residences used 10,627 kilowatt-

[1] This includes data from Duke Energy and Vectren, which track data by urban areas and zip codes, respectively.

hours (kWh) of electricity per meter, slightly lower than the average household use in the region.[2]

Insert paragraph on what city and county have accomplished thus far? Rather than executive summary

Residential

Goals

- Reduce per-meter, weather-normalized energy consumption from the 2013-2014 baseline by 10% by the end of 2016.
- Interface with 80% of Monroe County's 53,894[3] households through education programs, school curriculum, and other outreach, and obtain commitments from 20% of households.
- Set the stage for long-term energy efficiency through new or enhanced community policies.

Strategies

Goal #1: Reduce per-meter, weather-normalized energy consumption from the 2013-2014 baseline` by 10% by the end of 2016.

The residential plan will prioritize implementation of a few simple, effective actions in a larger number of households rather than intensive upgrades in fewer households. Households interested in going above-and-beyond these priority actions will be encouraged through education and technical assistance to improve their efficiency further.

For property owners

Based on cost savings estimates, priority actions for owner-occupied homes are:

- Insulating and sealing attics and ducts,
- Sealing large air leaks,
- Installing and using a programmable thermostat,
- Air-drying clothes in summer and washing clothes in cold water,
- Replacing incandescent bulbs with CFLs, LEDs, or other more efficient bulbs
- Educating homeowners of the connection between water use and energy use in the home, and encourage water use reductions that will result in decreased energy spent heating and treating water.

The community will face a particular challenge in improving efficiency in residences because nearly 50% of its housing units county-wide are rentals, including two-thirds of the housing units within the city of Bloomington. For this reason, we have developed rental-specific strategies, outlined below.

Rentals

[2] http://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/il.pdf

[3] According to the American Community Survey for 2012.

We will focus on efficiency in rentals both through landlords/property managers and through tenants.

For landlords and property managers, the focus will be on:

- Green lease programs,
- Green landlord/green rental certification or rating program,
- Continuing to develop a rental website that highlights green features and utility costs in addition to basic rental information,
- Basic equipment maintenance,
- Installation of programmable thermostats,
- Information on rebate/incentive opportunities,
- Point of sale requirements for energy efficiency.

Based on cost savings estimates, priority actions for tenants are:

- Setting thermostats at appropriate set points for heating, cooling, and unoccupied periods.
- Replacing incandescent bulbs with CFLs, LEDs, or other more efficient bulbs
- Air-drying laundry and washing laundry in cold water
- Ensuring windows and doors are closed and latched and storm windows are closed in the winter.
- Turning off lights, appliances, and equipment when not in use and turning off power supply to electronics to reduce standby power consumed when not in use.
- Priority requests for landlords (basic maintenance such as furnace filter replacement, programmable thermostats, insulation, air sealing, etc.)

<u>Goal #2: Interface with 80% of Monroe County's 53,894[4] households through education programs, school curriculum, and other outreach, and obtain commitments from 20% of households.</u>

Outreach for residential programs will focus on both outreach to individual households and outreach through existing organizations with particular focus on the *Task of the Month* program, described in detail below.

Individual household outreach

Outreach to individual households, with a focus on the priority actions outlined in Goal #1, will use the following strategies to encourage improvements.

- Provide free or low-cost energy assessments: Beat the Meter Blitz, utility-provided assessments, etc.
- Offer "A la carte" assessments that would allow individuals to pay on an a la carte basis for different components of an energy assessment rather than paying a flat fee that could be prohibitive. For example, residents could pay $25 for thermal camera images and another $25 for a blower door test through partnering energy management companies. These types of assessments could be scheduled in bulk through neighborhood associations, by posting flyers door-to-door, tabling at the Farmers Market and other local events, etc.

[4] According to the American Community Survey for 2012.

- Utilize trained volunteers to take thermal images taken using available cameras.
- Encourage consultations using trained energy counselors.
    - Provide owners with detailed information on existing incentives and lists of approved contractors through Duke Energy and Vectren, and call to schedule appointments.
    - Organize discounts for bulk purchases.
    - Identify other priority areas for attention.
    - Ask homeowner to sign a pledge to address issues identified as a priority.
    - Assist with rebate paperwork.
- Sponsor drawings and contests.
    - Offer prize drawings to households that have insulated the attic or walls during a predefined period.
    - Incentivize neighborhood or apartment building energy challenges.
- Make available outreach materials.
    - Facilitate the creation of how-to videos aimed at renters and homeowners.
    - Make available stock photos showing dos and don'ts of modeling energy efficiency.
    - Utilize standard social media, newsletters, and other outreach language that can be shared by property managers, landlords, neighborhood associations, and others at appropriate times.
    - Produce yard signs that announce "This is a green house" for those families that participate in the program.
- Co-sponsor events such as *Caulk of the Town*, efficiency "barnraisings," etc.

Organizational outreach
We will also heavily on existing organizations, with a particular focus on building on the *Task of the Month* program developed by Earth Care Bloomington, the purpose of here, and implemented by Hoosier Interfaith Power & Light – a state-wide organization that seeks to inspire and equip Hoosiers of faith to respond to climate change.

The *Task of the Month* is a year-long program that identifies priority efficiency improvements, and encourages broad constituencies to work together on implementation, tackling one task each month. While the program was originally developed for faith communities, the priority improvements, outreach materials, and other program elements can be used for neighborhood associations, businesses, civic organizations, and other local networks.

Starting in January 2015, we will begin broad outreach for the community's first task, insulating water heaters and lowering the temperature to 120 degrees. We will ask partner organizations to share information on the task, provide opportunities for those who have completed the task to share experiences and assist others, organize events, and so on. After proceeding through all 12 tasks (see Appendix ??), we will repeat the sequence in 2016 with additional partners and any innovations that emerge during the initial phase.

In addition, we will seek partnerships with other key constituencies such as social service organizations, Bloomington Economic Development Corporation, and the Bloomington and Ellettsville chambers of commerce.

As part of our effort to interface with renters, we will work with Indiana University's Residential Programs & Services (RPS) to help students learn what questions to ask landlords regarding the utility consumption and efficiency of potential rental units and how to be a responsible renter before they move off campus. Because nearly all IU students live in RPS housing during their first year, and because approximately 30,000 students live off campus at any given time, this partnership will be a key part of the rental outreach effort.

Goal #3: Set the stage for long-term energy efficiency through new or enhanced community policies.
These policies could include the following strategies:

- Mandate energy efficiency upgrades at point-of-sale.
- Develop energy benchmarking or disclosure requirements.
- Tighten requirements in the local building code.

K-12: Operations and Curriculum

Background

The Monroe County School Corporation (MCCSC) has a preexisting plan in place to reduce energy usage in its facilities and an Energy Education Specialist on staff to implement strategies. Between 2009 and 2013, MCCSC reduced system-wide energy usage by 38% and saved millions of dollars for the school corporation. These efforts are ongoing.

In 2012, two MCCSC schools and a charter school participated in a grant-funded community energy challenge with Monroe County. The challenge led to the development of lesson plans for energy conservation in science and math classes.

MCCSC has an established relationship with local utilities, including Duke Energy, providing funding and expertise for curricula development and energy reduction in programs for building operations. The Superintendent of MCCSC has also endorsed Monroe County Energy Challenge efforts (See Appendix ???).

We will reach out to the Ellettsville school district and private schools in the county to engage additional faculty and students in the project. RBB SUPER WILL ADD HIS SECTION

Goals

- Integrate school energy use with classroom curriculum to increase students understanding of energy use.
- Increase reduction efforts to achieve a 50% reduction from the 2009 baseline.

- Use school-based networks, class projects, and other activities to foster energy reduction across the community.

Strategies

Goal #1: Integrate school energy use with classroom curriculum to increase students understanding of energy use.

- Act as a liaison between the teaching and operations staff and with school administration.
    - Establish lines of communication between the schools' operations staff, who implement energy conservation measures, and the faculty. This collaboration will allow students, faculty, and staff to use the schools' ongoing operations as learning tools, thus establishing the schools as "energy labs."

- Assess and encourage energy education in the schools. An initial survey in September 2014 yielded a high level of interest among faculty for involvement in developing and sharing lesson plans on energy use and conservation.
    - Work with public school administration and the principals of charter and private K-12 schools within Monroe County to identify an "energy champion" in each school and service or administrative building, coordinate their efforts, and recognize their achievements.
    - Involve students in creating and implementing energy conservation practices as well as events and promotions to induce student and teacher awareness to rise together.
    - Promote and publicize energy-related grants and contests in which teachers and students are engaged.

- Create an energy education curriculum that motivates students to take materials and knowledge home and teachers to apply what they teach to the solution of real world problems.
- Collect, share and publicize curriculum resources for energy education. We will compile and share lesson plans for grades K-12 covering a variety of subjects.
    - Harvest teacher-developed lesson plans, exercises, classroom activities, grant applications, etc. related to energy use.
    - Index and store these materials in shared folders on Google Drive, making them available for future classrooms.
    - Use key faculty (Energy Champions) and a county-wide Student Conservation Council to develop new programs and share information.

Goal #2: Increase reduction efforts in school operations to achieve a 50% reduction from the 2009 baseline.

- Evaluate school buildings for energy efficiency.
- Install pulsed oscillators to provide real-time visibility into how much electrical energy a building is using.
- Other specific strategies here…

Goal #3: Use school-based networks, class projects, and other activities to foster energy reduction across the community.

- Utilize engaged students as the conduit for outreach into their homes, in support of the goals of both the residential and K-12 program plans.
- Develop curriculum and suggested assignments that encourage students to use their classrooms and their own homes as energy labs.
    - Use plug-in power and energy meters (e.g. "Kill-A-Watt" Meter) and other tools to enable students to explore energy use.
    - Use the soon-to-be-installed Pavegen project at Bloomington South High School, where the energy of every footstep is captured and converted to electrical power. This project was funded by grants from Duke Energy and The Raymond Foundation, as a way to engage students in energy education.
- More here….

K-12 Deliverables

We will suggest, produce and/or collaborate on lessons, programs and activities within the following categories:

1. Tier 1 deliverables increase awareness of energy consumption and conservation but require little if any extra effort from the classroom teacher. They facilitate easily identified behavior modifications. They could include inter-school energy competitions, real-time energy usage displays in schools, energy tip sheets, and other materials.
2. Tier 2 deliverables integrate energy-focused contents into the existing curriculum. By integrating with state standards and by sparing the research and development effort on the part of the individual teacher, they aim at easy and widespread adoption of the energy lessons. This could include providing access to "Kill-a-watt" meters and other tools to enable students to explore home energy use.
3. Tier 3 deliverables extend the scope of energy education beyond what currently exists in the schools and/or extend it beyond the walls of the school into the community. It is expected that the teacher's own degree of enthusiasm and commitment and that of the students will drive participation in these initiatives.

Municipal

Monroe County Government

Background

In 2006, the Monroe County Council passed a resolution in support of energy reduction, with a goal of 3% reduction per annum. Scrutiny of energy budgets includes electricity, natural gas, and fuel use. To achieve this goal, Monroe County Government (MCG) has taken a number of actions:

- In 2011, the Monroe County Environmental Quality and Sustainability Commission was established to serve as an advisory body to the Board of Commissioners.
- In 2012, MCG underwent a full energy audit of all county properties and operations through a grant from the Indiana Office of Energy Development. Lighting upgrades, the installation of occupancy sensors in offices and restrooms, and the addition of energy misers on vending machines were implemented soon after.
- Also in 2012, MCG received grant funding for the installation of solar panels on the roof of the county-owned portion of the Showers Building, where several of the county's offices are located. In tandem with this installation, an energy challenge was launched with two public schools and a charter school, with an educational component for elementary-age children. The energy dashboard, which tracks energy use and solar panel production, is available for the public to view on the MCG website.
- When the County Courthouse - a historic structure built in 1906 - was renovated in 2011, HVAC upgrades were carried out to reduce energy use.

MCG continues to aggressively pursue programs to reduce energy use in county buildings and the installation of additional solar panels to produce energy.

Goals

- Reduce energy use by 10% throughout county operations.
- Establish county-wide green teams to promote energy savings and efficiency across the organization.

Strategies

Goal #1: Reduce energy use by 10% throughout county operations.

- Employ performance contracting to achieve energy reductions in priority facilities.
    - Honeywell has been hired as a general contractor starting 2015 to accomplish Julie sending to d…
- Use the county's bonding authority and other funding to make resources available for both efficiency upgrades and solar installations.
    - The 2014 General Obligation (GO) bond includes an appropriation for the installation of a solar panel array on the roof of the Charlotte T. Zietlow Justice Center. This will be installed before the end of 2014. The Justice Center comprises 51% of county building energy use, mainly because it

houses the County Jail. As a result, the focus of attention on energy reduction (and energy production) programming is on this building.

Goal #2: Establish county-wide green teams to promote energy savings and efficiency across the organization.

- Green teams will create a value statement that will define why being green is meaningful to the community and the citizenry.
- Green teams will model positive behavior for encouraging change within the community.

Town of Ellettsville

Background

The Fire Station and Police Station in Ellettsville are less than ten years old, and, due to their age, are already relatively energy efficient. After a December 2013 flood, the Town Hall was vacated permanently and a new structure is being considered for construction, with town offices currently in a temporary location.

Ellettsville's wastewater treatment plant has some energy efficient components, including variable speed drive pumps, but there are a number of areas that would benefit from additional improvement.

Currently, there are no locally-based efforts to address residential energy use, and the Town hopes to use the MCEC as an opportunity to make progress in this sector.

Goals

- Use the Town's Utility operations and building assets as an illustration of how and why energy reduction is important to the community.
- Promote educational awareness that energy reduction makes GOOD SENSE as well as GOOD CENTS.

Strategies

Goal#1: Use the Town's Utility operations and building assets as an illustration of how and why energy reduction is important to the community.

- Implement an Energy Reduction Program that will use "how-to" approaches to illustrate energy reductions in residential as well as commercial applications

Goal #2: Promote educational awareness that energy reduction makes GOOD SENSE as well as GOOD CENTS.

- Install an energy dashboard in the new Town Hall location.
- Participate in community events by tabling and presenting information regarding energy savings opportunities.

Town of Stinesville

Background

Stinesville is located approximately five miles outside of the town of Ellettsville. With a population of under 200, Stinesville relies on many services of Ellettsville. Blah, blah, blah… Municipal building hosed in an old church, use of street lights only…

There are no current, locally based efforts to address residential energy use, and the Town hopes to use the MCEC as an opportunity to make progress in this sector. Julie will send to d.

Goals

- Reduce general energy consumption of community buildings by 3$.
- Promote energy awareness through education and outreach that energy reduction makes GOOD SENSE as well as GOOD CENTS.

Strategies

Goal#1: Use the Town's Utility operations and building assets as an illustration of how and why energy reduction is important to the community.

- Implement an Energy Reduction Program that will use "how-to" approaches to illustrate energy reductions in residential as well as commercial applications

Goal #2: Promote educational awareness that energy reduction makes GOOD SENSE as well as GOOD CENTS.

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City of Bloomington

Background

The City has already achieved reductions in energy consumption <<results of most recent energy inventory, pending 7% per Jacqui>>, including significant reductions at high profile buildings like City Hall, housed in the historic Showers Building, which has reduced energy use by almost half since 2006, and the Twin Lakes Recreation Center, which has reduced electricity use by ??.

Because City of Bloomington Utilities accounts for roughly 50% of all energy use and about three-quarters of electricity use in city operations, we have pulled this department out separately and developed goals specific to this sector.

Goals

- Reduce energy consumption across city, non-utility operations by 15% by the end of 2016 using a 2013-2014 baseline.
- Engage City staff and constituents to join energy reduction efforts in both municipal facilities and at home.

Strategies

Goal #1: Reduce energy consumption across City, non-water-utility operations by 15% by the end of 2016 using a 2013-2014 baseline.

- Employ performance contracting and other strategies to implement upgrades in city facilities.

- Adopt clear standard operating procedures for all energy consuming city operations and an organization-wide energy policy.
- Nolan to speak to peak use.

Goal #2: Engage City staff and constituents to join energy reduction efforts in both municipal facilities and at home.

- Expand the City's Team Green to include additional departments.
- Launch an internal small-grant program to empower staff to make improvements they identify in their own facilities.
- Implement small-scale improvements that facilitate staff support of energy goals, such as programmable thermostats and motion sensors.
- Employ competitions among departments and facilities or with other units of government to encourage energy use reduction.

City of Bloomington Utilities: Water, Wastewater and Stormwater

Background

City of Bloomington Utilities (CBU) began its energy management program in 2009 when the utility took part in an energy management pilot program that was organized through a partnership between the Indiana Department of Environmental Management and EPA Region 5. This program was based on the *Energy Management Guidebook for Water and Wastewater Utilities, a 2008 EPA publication*..

While CBU experienced modest energy and cost savings as a result of the program, the largest benefit CBU received as a result of its participation was an expanded understanding of its own operations and a better ability to identify and follow through with energy conservation opportunities. In the past two years (Oct. 2012 – Oct. 2014), CBU saved more than $125,000 as a result of its energy conservation program, and, in 2013, CBU hired its first full-time staff person dedicated solely to energy and water conservation efforts.

Goals

- Reduce energy use and average monthly peak demand by 10% from a 2013 baseline by the end of 2016, normalized for pumping and treatment rates.
- Pursue on-site energy generation options at water and wastewater facilities.
- Reduce supply-side non-revenue water and demand-side water consumption, thus reducing the energy required to treat and pump water and wastewater.

Strategies

Goal #1: Reduce energy use by 10% from a 2013 baseline by the end of 2016, normalized for pumping and treatment rates, while continuing to produce high quality products.

- Use performance contracting and other creative funding processes to reduce energy consumption at CBU facilities. Possible improvements that can be made through these funding opportunities include:
    - replacing outdated, inefficient equipment with energy efficient equipment (e.g. variable frequency drives on pumps and blowers and fine bubble diffusers in all aeration basins at wastewater treatment plants);
    - upgrade supervisory control and data acquisition (SCADA) systems at water and wastewater facilities to allow for more efficient operations;
    - update customer water meters to an advanced metering infrastructure (AMI), allowing the utility to reduce non-revenue water;
    - implement a proactive leak detection and repair program, which would reduce lost revenue and wasted energy pumping and treating water.
- Work with plant superintendents, operators, directors, engineers, and other CBU staff to develop standard operating procedures (SOPs) for all energy consuming operations. SOPs will detail how to operate equipment in a manner that will reduce operating costs (energy costs, maintenance costs, and equipment replacement costs), while still producing high quality end-products.
- Hold monthly Energy Management Group meetings with CBU directors, engineers, plant superintendents, plant maintenance staff, operators, and conservation managers to review energy bills, identify trends in energy use and abnormal energy use events, create solutions to reduce future energy use and peak demands, and cultivate an energy-conscious mindset among all CBU employees.

<u>Goal #2: Pursue on-site energy generation options at water and wastewater facilities.</u>

- Partner with IU, Ivy Tech, and other local college students to model on-site energy generation methods and carry out life cycle assessments for energy efficiency upgrades.

<u>Goal #3: Reduce both supply-side and demand-side water consumption, thus reducing the energy required to treat and pump water and wastewater.</u>

- Implement the CBU Water Conservation Plan adopted by the Utilities Service Board in 2014 in order to reduce supply-side non-revenue water and demand-side water consumption. Implementation measures from the 2014 CBU Water Conservation Plan include, but are not limited to:
    - Carrying out yearly water audits to use as a foundation for CBU's leak detection program
    - Providing rebates for water efficient appliances to CBU customers
    - Providing CBU customers better access to detailed water use information
    - Developing a multifaceted public education campaign
    - Analyze possibility of adopting conservation pricing
- Conduct research in partnership with IU faculty to determine the most effective methods CBU can employ to encourage water conservation among CBU customers.

Community Engagement

In order to reach as broad a segment of the local population as possible, the Monroe County Energy Challenge will take an everything-but-the-kitchen-sink approach to community engagement. We will focus on visibility, inclusion, repetition, and simplicity to convey our central messages. We will utilize numerous delivery options to reach our diverse community.

Community engagement efforts will be spearheaded by a newly established Engagement Committee ~~made up of X, Y, Z people.~~

Multi-media strategy

The MCEC will rely on multiple forms of communication, including but not limited to:

- Earned media,
- Social media,
- Educational videos and "dos and don'ts" photos aimed at tenants and homeowners; available at city and county websites as well as youtube and for general (free) distribution,
- Print advertising,
- Organizational listserves and newsletters,
- An MCEC website and links to other websites,
- Radio and TV interviews,
- Monthly outreach in multiple venues highlighting *Task of the Month* tasks,
- Other outreach.

K-12 strategy

The Education Committee will mobilize both students and staff in local schools to help reiterate and broaden lessons from the classroom. Possible avenues for involvement include the following.

- Establish a regular publication schedule with the local newspaper for student- and staff-generated articles on the GUEP competition and energy matters in general.
- Engage students in generating communications, internal marketing materials, and social media campaigns.
- Encourage and support students at the three MCCSC secondary schools to produce school media presentations for weekly, in-school viewing by the student body. An additional three MCCSC schools have broadcast capability that they use for daily announcements and other video news programs. A student leader involved with that effort suggests making "infomercials" for energy reduction as a way to reach a broad audience in the schools. These infomercials will later be accessible from the shared Google Drive.
- Student leaders and building energy champions (discussed in the K-12 section) will work together to produce and update MCEC-related content for the MCCSC website, the website of other participating schools, and a Facebook page/Twitter feed.
- Students and teachers will be asked to engage with school operations staff to experiment with fine-tuning environmental controls in school buildings to explore methods of saving energy and increasing comfort levels.

Higher education strategy

Monroe County is home to two major institutions of higher education: Indiana University and Ivy Tech Community College.

While Indiana University's meters will not be part of this initial phase of the Monroe County Energy Challenge, access to its more than 40,000 students - roughly 50% of Bloomington's population and nearly 1/3 of the county's population – and 7,400 staff and faculty will be critical to local efforts. In particular, the MCEC will explore partnership with Residential Programs & Services, a campus division that operates the on-campus residence halls and apartments that house nearly all IU students at some point in their matriculation. As students seek their first apartments and prepare to move off-campus, simple, targeted messaging will help them consider the broader costs of living (including energy and transportation, among others) that are often ignored in housing decisions. The IU Office of Sustainability, represented on our Residential Committee, will also be a key partner.

Likewise, Ivy Tech's 6,500 students and 200 staff will be an important audience for the challenge. In addition to being homeowners or renters in the community (Ivy Tech does not offer on-campus housing), Ivy Tech students are developing a number of skills with direct relevance to the competition, including video production, web design, and HVAC and building operations skills. The MCEC will partner with Ivy Tech staff to both get messages out to students and to create opportunities for students to build their resumes.

Civic organization mobilization

Civic organizations provide access to existing social networks that will be needed to engage members of the population that are otherwise likely to remain uninvolved in the effort. Earth Care, one of the partners on the MCEC effort, has developed a compendium of materials to support congregation-based efficiency efforts through their *Task of the Month* program. These materials and their associated support activities will be adapted for dissemination through other types of organizations, including:

- Neighborhood associations,
- Clubs,
- Service organizations,
- Additional congregations not already involved in Earth Care,
- Others as identified during the competition.

While all organizations will be encouraged to participate in the *Task of the Month* program, those that are interested in a lower level of participation can also support the effort by disseminating information to their members about critical actions such as insulating attics, providing volunteers for events, etc.

Business engagement

Businesses will be an important part of the effort in several ways.

First, involvement of business owners and managers in the initial implementation phase will help them prepare for energy improvements in their own facilities and homes as we expand the reach of the energy plan over time. The commercial sector is a priority for the second phase of the effort, following the end of the Georgetown University Energy Prize competition.

Second, businesses can serve as a conduit to both staff and clients, similar to the role of civic organizations outlined above.

Third, they can serve as a source of both resources and expertise. This could include:

- Sponsorship of the contest overall through grants (through associated foundations, for example),
- Sponsorship of school green teams through funding, equipment, or training (on how to do energy audits, for example),
- Collaboration with students in creating community engagement materials, such as how-to videos,
- Supporting efforts to showcase materials needed for *Task of the Month* tasks (at local hardware stores, the public library, etc.),
- Encouraging and providing support for their own workers to participate in service days that support the challenge effort.

Competitions, drawings, and events

To keep the MCEC fresh and interesting, we will engage the public through energy-focused events and competitions. This will include:

- Drawings for free energy audits, energy efficient products, or cash prizes to help offset energy efficiency investments,
- Student-led outreach events,
- The continued expansion of "Beat the Meter Blitz," which provides free energy audits to residents via lottery,
- Tabling at popular events like the Farmers Market to recruit additional participants,
- Neighborhood or government building energy savings contests,
- Events such as Caulk of the Town, efficiency "barnraisings," etc.

Utility data reporting

COMING SOON

Program Management and Partners

Leadership Committee

The Monroe County Energy Challenge will be guided a Leadership Committee – including one representative from the City of Bloomington government, the Monroe

County government, the Town of Ellettsville, and the chair of the Task Force. All serve as volunteers, deeply committed to the energy project. This group will serve as the "face" of the project, doing something for the community to inspire and spark engagement. The Leadership Team meets on a regular basis in order to discuss issues as they arise and ensure that the effort stays on track.

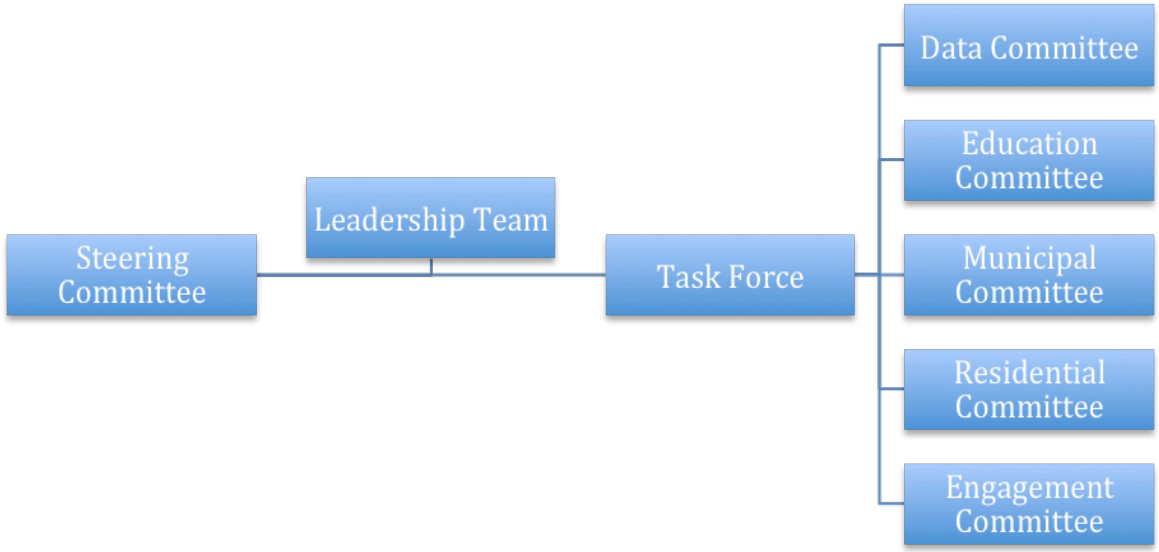
The Steering Committee includes committee leadership and representatives from all participating utilities. This committee will provide general guidance and feedback on the effort, plus a direct connection to the data needed for the competition and information on utility programs or regulatory changes.

The Task Force, which is the same as the Steering Committee minus the utility representatives, focuses on community-side implementation of Steering Committee recommendations and general competition logistics.

Finally, the MCEC has been split into five committees. There are three committees responsible for developing energy efficiency awareness and programs in a specific sector – the Residential, Municipal, and Education (K-12 schools) Committees. The Data Committee supports all of the other committees, and is responsible for utility energy usage data collection and analysis, awareness surveying, and the MCEC website. The recently formed Engagement Committee will coordinate outreach to the entire community to create energy efficiency awareness and encourage participation in the MCEC.

See Figure 1 for a representation of the MCEC organizational structure.

Figure 1. Organizational Structure of the Monroe County Energy Challenge



Special Considerations

Innovation

Financing availability is consistently listed as the largest barrier standing in the way of pursuing more energy efficient facilities, and, even with funds available, organizations must have adequate staff with sufficient skill-sets to organize and manage these projects. Innovative financing practices can go a long way to alleviate these concerns. MCEC will pursue several financing options to ensure all community entities have access to energy efficiency opportunities.

Innovative financing options to be pursued include 1) performance contracting, which will allow our municipalities to have access to funding opportunities that will result in long-term savings, while having minimal impact on annual budgets. Additionally, the performance contractor will provide the necessary expertise to identify and quantify energy savings opportunities. 2) MCEC will also encourage the establishment of an energy efficiency revolving loan fund to provide a self-sustaining pool of money available to a broad array of community entities. 3) On-bill financing and other "pay-as-you-save" financing options will be explored in partnership with regional electric and gas utilities. This will be a vital tool in spurring energy efficient investment in area rental properties.

Due to Monroe County's abnormally high rate of rental properties, MCEC will develop innovative measures to reach this population. Developing a Green Landlord Certification and Green Lease Program will be the area's first such program, allowing future tenants to easily include energy efficiency in their rental choices. Additionally, developing a creative partnership with Indiana University's (IU) Residential Program Services (despite IU's meters not being part of the competition) will provide an avenue to reach out to many of the community's residents.

Potential for Replication and Scalability

There is nothing inherently different about Monroe County and the entities within that would prevent our Community Energy Savings Plan from being implemented in communities across the nation. However, we realize that each community is unique and that each community will have already achieved varying amounts of success through previous efforts. With this in mind, MCEC will document both future and past energy efficient efforts to ensure that other communities—no matter what stage of energy efficiency they currently enjoy—will be able to duplicate our success, and avoid our failures. MCEC will continually update our plan with appendices detailing our efforts.

MCEC's energy savings plan heavily depends on the development of strong relationships between governments, businesses, universities, school systems, and other organizations within the community. These relationships are the building blocks that any community can—and must—create in order to implement an effective energy conservation plan. Because our plan focuses on the mutual benefits we can achieve as

a community, and does not depend on one or a few entities to provide for the rest, this plan is intrinsically replicable and scalable.

Likely Future Performance

MCEC understands that long-term energy savings do not result from temporary efforts and that our participation in the GUEP will not be a success if it does not result in permanent local policy. The City of Bloomington displayed a willingness to implement far-reaching ordinances when, in 2009, the City approved the Green Building Program, which, among other requirements, states that all new construction must meet LEED standards, and that all existing buildings must undergo a LEED feasibility assessment. While carrying out this plan, MCEC will work to develop additional long-term local policies, such as mandating energy-efficiency upgrades at point-of-sale, exploring energy disclosure requirements, and stricter local building codes. Long-term success will also be nurtured through non-mandatory programs that local residents will benefit from, such as Green Lease Programs and Green Llandlord Certifications.

Long-term performance also heavily depends on the ability to reach out to all segments of the community. MCEC's goal of contacting at least 80% of Monroe County's households will be a crucial step in this process. And, while reaching out to all generations of residents is important in this process, reaching out to the community's youth is vital. School-aged children are a key resource to get information into local households. They also compose the county's (and the world's) future population. Educating them early on the importance and benefits of energy efficiency will ensure MCEC's efforts extend into the future.

The community can only achieve long-term success if it maintains adequate support, both from the community and from local government institutions. With this in mind, the City of Bloomington has already created two full-time positions dedicated to sustainability and resource conservation, and MCCSC has one full-time staff person pursuing energy and cost saving projects. These permanent positions will continue to act as champions for the community into the future, ensuring that any savings are not short term. MCEC will encourage the creation of a community energy efficiency staff person using cost savings that have resulted from previous energy efficiency projects to fund the position.

(Moved from Residential section NEED TO REWORK TO FIT HERE) *Goal #4: Explore long-term changes to utility rate structures, distributed and renewable energy availability, transportation infrastructure and programs, and other improvements that will reduce the environmental footprint of local households during the next phase of implementation.*

The initial phase of the Energy Plan outlined here focuses on very specific aspects of energy: metered electricity and natural gas in the residential, municipal, and K-12 sectors. In order to reduce the community's environmental footprint into the future, we'll need to broaden our focus.

Areas to be considered for additional goals and programs following the initial 2015-2016 implementation period include but are not limited to:

- Commercial sector metered energy use
- Institutional metered energy use
- Distributed or neighborhood energy systems
- Transportation
- State-wide utility policies
- Utility rate structures and policies, including the use of inclining block rates, peak charges, smart meters that allow users to control time of use, and other strategies.
- Other topics identified during Phase One

So will the applications to be built on pulse oscillator data, and the practice of using that data in classroom data modeling lessors.

Inclusion: how do we reach the hard to reach?

Ed Committee: Through their school-aged children.

Prize purse

The Prize Purse will be housed at the Monroe County Community Foundation and used for the following purposes.

1) A portion of the purse will be set aside as an **energy endowment**, with interest each year being used to support a community energy efficiency staff position (perhaps housed at one of the participating government entities) and related programs. In addition, the endowment could accept donations from community members to help grow the yearly payout over time.
   Estimated allocation: $2 million (~$90k annual payout)

2) An additional portion will be used to create an **energy efficiency revolving loan fund**. These funds will be used to give loans to local government, businesses, non-profits, and other entities. Loans would then be paid back through energy savings to maintain a continuous source of funding for local projects. This fund could likewise accept donations from the general public.
   Estimated allocation: $2 million

3) Finally, we will create an **energy efficiency grant program** that can be used either in conjunction with loans through the revolving loan fund (to make projects more accessible to organizations with limited capital) or as stand-alone grants.
   Estimated allocation: $1 million

In all three programs, we will emphasize inclusion, visibility, payback, and environmental impact. While the programs will not be used to fund residential programs directly, other organizations may be recruited as partners to develop "pay-as-you-save" and other

programs that encourage individual homeowners to make improvements in their own homes.

Evaluating Success

COMING SOON

Benchmarks include…